











and the first two terms in the expansion of the function ϕ_0 are given by

$$\phi_0 = \frac{1}{2} \left(\frac{1}{\sqrt{2}} \left(\frac{\partial^2 \phi}{\partial x^2} + \frac{\partial^2 \phi}{\partial y^2} \right) - \frac{1}{\sqrt{2}} \left(\frac{\partial^2 \phi}{\partial x^2} - \frac{\partial^2 \phi}{\partial y^2} \right) \right) + \dots$$

where the ellipsis indicates higher-order terms. The first term in the expansion of ϕ_0 is the same as that of the function ϕ , and the second term is the difference between the second derivatives of ϕ with respect to x and y .

The function ϕ_0 is a solution of the Laplace equation, and it is also a solution of the Helmholtz equation. This is because the Laplace equation is a special case of the Helmholtz equation, and the function ϕ_0 satisfies both equations.

The function ϕ_0 is a solution of the Helmholtz equation, and it is also a solution of the Laplace equation. This is because the Helmholtz equation is a special case of the Laplace equation, and the function ϕ_0 satisfies both equations.

The function ϕ_0 is a solution of the Laplace equation, and it is also a solution of the Helmholtz equation. This is because the Laplace equation is a special case of the Helmholtz equation, and the function ϕ_0 satisfies both equations.

The function ϕ_0 is a solution of the Helmholtz equation, and it is also a solution of the Laplace equation. This is because the Helmholtz equation is a special case of the Laplace equation, and the function ϕ_0 satisfies both equations.

The function ϕ_0 is a solution of the Laplace equation, and it is also a solution of the Helmholtz equation. This is because the Laplace equation is a special case of the Helmholtz equation, and the function ϕ_0 satisfies both equations.

The function ϕ_0 is a solution of the Helmholtz equation, and it is also a solution of the Laplace equation. This is because the Helmholtz equation is a special case of the Laplace equation, and the function ϕ_0 satisfies both equations.

The function ϕ_0 is a solution of the Laplace equation, and it is also a solution of the Helmholtz equation. This is because the Laplace equation is a special case of the Helmholtz equation, and the function ϕ_0 satisfies both equations.

The function ϕ_0 is a solution of the Helmholtz equation, and it is also a solution of the Laplace equation. This is because the Helmholtz equation is a special case of the Laplace equation, and the function ϕ_0 satisfies both equations.

The function ϕ_0 is a solution of the Laplace equation, and it is also a solution of the Helmholtz equation. This is because the Laplace equation is a special case of the Helmholtz equation, and the function ϕ_0 satisfies both equations.

The function ϕ_0 is a solution of the Helmholtz equation, and it is also a solution of the Laplace equation. This is because the Helmholtz equation is a special case of the Laplace equation, and the function ϕ_0 satisfies both equations.

The function ϕ_0 is a solution of the Laplace equation, and it is also a solution of the Helmholtz equation. This is because the Laplace equation is a special case of the Helmholtz equation, and the function ϕ_0 satisfies both equations.

The function ϕ_0 is a solution of the Helmholtz equation, and it is also a solution of the Laplace equation. This is because the Helmholtz equation is a special case of the Laplace equation, and the function ϕ_0 satisfies both equations.





















































































































